

Application No. 10/567,597
Appeal Brief
September 9, 2008

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Rosalie A. Centeno

Rosalie A. Centeno, Paralegal

Appl. No. : 10/567,597
Applicant : Albrecht Rosenfeld, et al
Filed : February 3, 2006
For : STEERING MECHANISM FOR A MOTOR VEHICLE
TC/A.U. : 3611
Examiner : Anne Marie M. Boehler

Customer No: 30996

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

The Appellants submit the following for their brief on appeal and respectfully request consideration of same. The Appellants request withdrawal of the rejections made and that the Application be placed in line for Allowance.

TABLE OF CONTENTS

I.	REAL PARTY IN INTEREST	3
II.	RELATED APPEALS AND INTERFERENCES	3
III.	STATUS OF CLAIMS	3
IV.	STATUS OF AMENDMENTS	3
V.	SUMMARY OF CLAIMED SUBJECT MATTER	4
VI.	GROUND OF REJECTION TO BE REVIEWED ON APPEAL	4
VII.	ARGUMENT	5 - 7
VIII.	CLAIMS APPENDIX	8-9
IX.	EVIDENCE	10
X.	RELATED PROCEEDINGS	11

I. REAL PARTY IN INTEREST

The real parties in interest in the instant application are the assignee and inventors, Albrecht Rosenfeld et al.

II. RELATED APPEALS AND INTERFERENCES

The Appellants are unaware of any related appeals or interferences with regard to the application.

III. STATUS OF CLAIMS

Claims 1-13, 15, 16, and 21 were canceled. Claims 14, 17-20 and 22-26 are rejected. Claims 14, 18-20 and 22-25 are appealed.

IV. STATUS OF AMENDMENTS

A Final Office Action finally rejecting claims 14, 17-20 and 22-26 was mailed on March 12, 2008. A Request for Reconsideration was submitted on June 4, 2008, in which claim 14 was amended and claims 17 and 26 were canceled to address a formal rejection under 35 U.S.C. 112, second paragraph. An Advisory Action was mailed June 19, 2008, in which the Examiner indicated that the amendments proposed in the Request for Reconsideration would not be entered and the final rejection of the pending claims was maintained.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 14 defines a steering mechanism comprising a housing 1; a rack 11, which defines an axial direction and meshes with a pinion 13 (specification, Fig. 1; pages 5-6); and a hydraulic servo-drive having a piston/cylinder unit comprising a cylinder 42, a piston 6, and a piston rod 4 that extends in said axial direction (Figs. 1, 2, and 3; pages 6-7), wherein said rack 11 and said piston rod 4 are parallel to one another in said axial direction (Figs. 1 and 2, page 6, first complete paragraph), and are spaced from one another in a direction transverse to said axial direction (Figs. 1 and 2, page 11, lines 13 through 20), and wherein the rack 11 is fixedly connected to the cylinder 42 in the axial direction (Figs. 1 and 2, page 10, line 19 through page 11, line 11).

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 14, 18-20 and 22-24 are anticipated under 35 U.S.C. 102(b) by U.S. Patent No. 4,629,026 to Rosell; and
2. Whether claim 25 is unpatentable under 35 U.S.C. 103(a) over Rosell in view of U.S. Patent No. 6,029,334 to Ozeki.

VII. ARGUMENT

1. Claims 14, 18-20 and 22-24 are not anticipated by Rosell.

In the final rejection, the Examiner argues that in Rosell, the rack is fixed in axial direction of the piston and is allowed to tilt around the axis of the piston. This interpretation is based on the text of Rosell, column 2, lines 40 - 43.

In fact, the drawings of Rosell indicate a contrary interpretation. Figures 1 and 2 show that the ends of the rack body are tapered and held down to the cylinder by cross members 54. These cross members 54 extend in a direction transverse to the longitudinal axis of the device. Since they are straight and since the tapered end of the rack is flat in this direction, a tilting movement is inhibited. The only sense this arrangement makes is to enable the rack to move slightly under the cross members 54 in the axial direction of the cylinder.

This view is further supported by Fig. 4, which clearly shows a guiding block or channel 53 inside the arch device 52. The channel 53 has a rectangular cross-section which closely fits the cross-section of the rack body. A tilting movement of rack block 30 would certainly only be possible if the arch 52 itself could move around the cylinder body 50. Then there would be no necessity to hold the ends of the rack under the cross-members 52 - one could screw or weld them directly onto the arches 52. In col. 2 line 47 - 48 Rosell explains that arch 52 is fixed to the end of the cylinder body 50. The rack 30 therefore can definitely not tilt around the axis of the cylinder 50.

Since the text and the drawings of Rosell are in obvious contradiction,

there are two options:

1. the practitioner skilled in the art would look at the drawings and then come to the conclusion that the rack 30 can move in axial direction of the cylinder body 50 because the cross members 54 and the elastic elements 34 provide the appropriate bearings for this;

2. If there is still doubt, one would look into the original Spanish application or another parallel document to see whether that text is clear. This shows that the English translation is incorrect. The other texts say nothing of tilting around an axis but literally say that "the rack body 30 mounted transversally floating onto the body of the cylinder 50". This clearly contradicts the opinion of the examiner.

If the rack 30 is movable in this direction, the technical effect of the present invention is not achieved, namely, a precise coupling without lost motion between the steering column and the track rods.

Moreover, Rosell shows a pinion which is mounted centrally in the device. This configuration is inconvenient if one intends to connect a steering column to the device which is situated offset left-hand or right-hand in the vehicle.

Rosell does not disclose a steering mechanism in which the rack is rigidly fixed to the cylinder. In Rosell, the rack clearly is movable relative to the cylinder. While Rosell mentions tilting, movement in the axial direction is also possible because the elastic discs 34 allow this movement. In addition, the rack is guided at its ends at 31 under two rollers or bolts 54. These bolts form a bearing which allows for some sliding movement, but only in the axial direction. It appears to

be impossible to tilt the rack in these gearings in the tangential direction of the cylinder.

The Appellants furthermore respectfully submit that Rosell is not a proper reference under 35 USC 102 pursuant to the guidelines set forth in the last paragraph of MPEP section 2131, where it is stated that "a claim is anticipated only if each and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference", and that "the identical invention must be shown in as complete detail as is contained in the ... claim".

2. Claim 25 is not obvious over the combination of Rosell and Ozeki.

Since claim 25 depends from claim 14, it includes all of the features of claim 14, and therefore, is patentable over Rosell for the same reasons as set forth above with regard to claim 14.

In view of the foregoing discussion, it is respectfully requested that the Honorable Board of Patent Appeals and Interferences overrule the final rejection of claims 14, 18-20, and 22-25 over the cited art, and hold that Appellants' claims be allowable over such art.

Respectfully Submitted,



Robert W. Becker, Reg. No. 26,255
Attorney for Applicant

Robert W. Becker & Associates
707 Highway 66 East, Suite B
Tijeras, NM 87059

Telephone: (505) 286-3511
Facsimile: (505) 286-3524

VIII. CLAIMS APPENDIX

Copy of Claims Involved in the Appeal:

14. A steering mechanism comprising:
- a housing;
- a rack, which defines an axial direction and meshes with a pinion;
- and
- a hydraulic servo-drive having a piston/cylinder unit comprising a cylinder, a piston, and a piston rod that extends in said axial direction, wherein said rack and said piston rod are parallel to one another in said axial direction and are spaced from one another in a direction transverse to said axial direction, and wherein the rack is fixedly connected to the cylinder in the axial direction.
18. A steering mechanism according to claim 14, wherein free ends of said rack are encased by sleeves that enclose and outwardly seal a movement space of said rack.
19. A steering mechanism according to claim 14, wherein free ends of said rack are encased by sliding sleeves or bellows that are adapted to free a space that is disposed axially adjacent to said rack.
20. A steering mechanism according to claim 14, wherein a modular rotary slide valve is eccentrically secured to a frame that carries said steering mechanism.

22. A steering mechanism according to claim 14, which is provided for a vehicle, and wherein said piston rod is mounted so as to be substantially unmovable relative to the vehicle.

23. A steering mechanism according to claim 14, wherein a center take-off for tie rods that are to be actuated by said steering mechanism is secured directly to said cylinder.

24. A steering mechanism according to claim 14, which includes means for supplying hydraulic fluid to end faces of said piston rod for actuating said servo-drive.

25. A steering mechanism according to claim 14, which includes a guide rod, and wherein said guide rod, said rack, and said piston rod are parallel to and axially spaced from one another.

IX. EVIDENCE

None.

X. RELATED PROCEEDINGS

None.